<110> Andersson, Lief
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Plastow, Graham Stuart

<120> METHODS FOR ANALYSING ANIMAL PRODUCTS

<130> A33615   064727.0108

<140> 09/450,651
<141> 1999-11-30

<150> GB 9711214.8
<151> 1997-05-30

<150> GB 9801990
<151> 1998-01-31

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<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 37
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<220>
<223> aMSHR Forward Primer 1

<400> 1
tgtaaaacga cggccagtrg tgcctggagg tgtccat   37

<210> 2
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> aMSHR Reverse Primer 5

<400> 2
cgcccagatg gccgcgatgg accg   24

<210> 3
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> aMSHR Forward Primer 2

<400> 3
cggccatctg ggcgggcagc gtgc   24

<210> 4

<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> aMSHR Reverse Primer 2

<400> 4
ggaaggcgta gatgaggggg tcca   24

<210> 5
<211> 24
<212> DNA
<213> Pig

<220>
<221> misc_feature
<222> (0)...(0)
<223> aMSHR Forward Primer 3

<400> 5
gcacatcgcc cggctccaca agac   24

<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> aMSHR Reverse Primer 3

<400> 6
ggggcagagg acgacgaggg agag   24

<210> 7
<211> 30
<212> DNA
<213> Pig

<220>
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<222> (0)...(0)
<223> LA93 forward primer

<400> 7
gagcagcccc taccccggaa tgccagttga   30

<210> 8
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> KIT56 reverse primer

<400> 8
ctttaaaaca gaacataaaa gcggaaacat catgcgaagg   40

<210> 9
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 9
cgcccagatg gccgcgatgg accg   24

<210> 10
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<212> DNA
<213> Artificial Sequence

<220>
<223> aMSHR Forward Primer 4

<400> 10
tgcgctacca cagcatcgtg accctgc   27

<210> 11
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> aMSHR Reverse Primer 4

<400> 11
gtagtaggcg atgaagagcg tgct   24

<210> 12
<211> 22
<212> DNA
<213> Pig

<220>
<221> misc_feature
<222> (0)...(0)
<223> Example 6 forward primer

<400> 12
ctgcctggcc gtgtcggacc tg   22

<210> 13
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 6 reverse primer

<400> 13
ctgtggtagc gcagcgcgta gaag   24

<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 7 primer

<400> 14
tgaggtagga gagttttggg   20

<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 7 primer

<400> 15
tcgaaattga ggggaagacc   20

<210> 16
<211> 22
<212> DNA
<213> Pig

<220>
<221> misc_feature
<222> (0)...(0)
<223> KIT21 forward primer

<400> 16
gtattcacag agacttggcg gc   22

<210> 17
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> KIT35 reverse primer

<400> 17
aaacctgcaa ggaaaatcct tcacgg   26

<210> 18
<211> 25
<212> DNA
<213> Pig

<220>
<221> misc_feature
<222> (0)...(0)
<223> Example 12 KIT forward primer

<400> 18
gaatattgtt gctatggtga tctcc   25

<210> 19
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

```
<223> Example 12 KIT reverse primer

<400> 19
ccgcttctgc gtgatcttcc tg                                                    22

<210> 20
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 12 CRC forward primer

<400> 20
ctggatgtcc tgtgttccct gt                                                    22

<210> 21
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 12 CRC reverse primer

<400> 21
aggtttgtct gcagcagaag ctc                                                   23

<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 14 KITDEL2-FOR forward primer

<400> 22
gaaagtgayg tctggtccta tsggat                                                26

<210> 23
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 14 KITDEL2-REV reverse primer

<400> 23
agccttcctt gatcatcttg tag                                                   23

<210> 24
<211> 22
<212> DNA
<213> Pig

<220>
<221> misc_feature
<222> (0)...(0)
<223> Example 15 KITDEL1-FOR forward primer

<400> 24
```

tgtgggagct cttctcttta gg   22

<210> 25
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Example 15 KITDEL1-REV reverse primer

<400> 25
ccagcaggac aatgggaaca tct   23

<210> 26
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> KIT40 primer

<400> 26
ggctctgggg gctcggcttt gc   22

<210> 27
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> KIT22S primer

<400> 27
tcagacatct tcgtggacaa gcagagg   27

<210> 28
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Mouse/human derived KIT1F primer

<400> 28
tcrtacatag aaagagaygt gactc   25

<210> 29
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Mouse/human derived KIT7R primer

<400> 29
agccttcctt gatcatcttg tag   23

<210> 30
<211> 30
<212> DNA

<213> Pig

<220>
<221> misc_feature
<222> (0)...(0)
<223> E19FOR primer

<400> 30
gagcagcccc taccccggaa tgccagttga   30

<210> 31
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> E19REV primer

<400> 31
ctttaaaaca gaacataaaa gcggaaacat catgcgaagg   40

<210> 32
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> EPIG10 primer

<400> 32
ggtctagatc accaggagca ctgcagcacc   30

<210> 33
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> EPIG16 primer

<400> 33
gggaagcttg accccccgaga gcgacgcgcc   30

<210> 34
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> MC1R121A primer

<221> modified_base
<222> (1)...(1)
<223> hex dye

<400> 34
ggactccatg gagccgcaga tgagcacggt   30

<210> 35
<211> 20

<212> DNA
<213> Artificial Sequence

<220>
<223> EPIG13 primer

<400> 35
gcaagaccct ccaggaggtg   20

<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> EPIG14 primer

<400> 36
cactgagccg tagaagagag   20

<210> 37
<211> 914
<212> DNA
<213> Pig (Wild boar)

<220>
<221> CDS
<222> (30)...(914)
<223> Wild boar aMSH-R

<400> 37
```
ctccctgctc cctgctccct ggcgggacg atg cct gtg ctt ggc ccg gag agg    53
                                  Met Pro Val Leu Gly Pro Glu Arg
                                   1           5

agg ctg ctg gct tcc ctc agc tcc gcg ccc cca gcc gcc ccc cgc ctc    101
Arg Leu Leu Ala Ser Leu Ser Ser Ala Pro Pro Ala Ala Pro Arg Leu
     10              15                  20

ggg ctg gcc gcc aac cag acc aac cag acg ggc ccc cag tgc ctg gag    149
Gly Leu Ala Ala Asn Gln Thr Asn Gln Thr Gly Pro Gln Cys Leu Glu
 25                  30                  35                  40

gtg tcc att ccc gac ggg ctc ttc ctc agc ctg ggg ctg gtg agc ctc    197
Val Ser Ile Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu
                 45              50                  55

gtg gag aac gtg ctg gtg gtg gcc gcc atc gcc aag aac cgc aac ctg    245
Val Glu Asn Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu
             60              65                  70

cac tcg ccc atg tac tac ttc gtc tgc tgc ctg gcc gtg tcg gac ctg    293
His Ser Pro Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu
             75              80                  85

ctg gtg agc gtg agc aac gtg ctg gag acg gcc gtg ctg ctg ctg ctg    341
Leu Val Ser Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu
     90                  95                  100

gag gcg ggc gcc ctg gcc gcc cag gcc gcc gtg gtg cag cag ctg gac    389
```

```
Glu Ala Gly Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp
105             110             115             120

aat gtc atg gac gtg ctc atc tgc ggc tcc atg gtg tcc agc ctc tgc    437
Asn Val Met Asp Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys
                125             130             135

ttc ctg ggc gcc atc gcc gtg gac cgc tac gtg tcc atc ttc tac gcg    485
Phe Leu Gly Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala
            140             145             150

ctg cgc tac cac agc atc gtg acg ctg ccc cgc gcg ggg cgg gct atc    533
Leu Arg Tyr His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile
        155             160             165

gcg gcg atc tgg gcg ggc agc gtg ctc tcc agc acc ctc ttc atc gcc    581
Ala Ala Ile Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala
        170             175             180

tac tac cac cac acg gcc gtc ctg ctg ggc ctc gtc agc ttc ttc gtg    629
Tyr Tyr His His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val
185             190             195             200

gcc atg ctg gcg ctc atg gcg gta ctg tac gtc cac atg ctg gcc cgg    677
Ala Met Leu Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg
                205             210             215

gcc tgc cag cac ggc cgg cac atc gcc cgg ctc cac aag acg cag cac    725
Ala Cys Gln His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His
            220             225             230

ccc acc cgc cag ggc tgc ggc ctc aag ggc gcg gcc acc ctc acc atc    773
Pro Thr Arg Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile
        235             240             245

ctg ctg ggc gtc ttc ctc ctc tgc tgg gca ccc ttc ttc ctg cac ctc    821
Leu Leu Gly Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu
        250             255             260

tcc ctc gtc gtc ctc tgc ccc cag cac ccc acc tgc ggc tgc gtc ttc    869
Ser Leu Val Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe
265             270             275             280

aag aac gtc aac ctc ttt ctg gcc ctc gtc atc tgc aac tcc atc        914
Lys Asn Val Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                285             290             295
```

<210> 38
<211> 914
<212> DNA
<213> Pig (Meishan)

<220>
<221> CDS
<222> (30)...(914)
<223> Meishan aMSH-R

<400> 38

```
ctccctgctc cctgctccct ggcgggacg atg cct gtg ctt ggc ccg gag agg    53
                                 Met Pro Val Leu Gly Pro Glu Arg
                                  1               5

agg ctg ctg gct tcc ctc agc tcc gcg ccc cca gcc gcc ccc cgc ctc    101
Arg Leu Leu Ala Ser Leu Ser Ser Ala Pro Pro Ala Ala Pro Arg Leu
     10              15                  20

ggg ctg gcc gcc aac cag acc aac cag acg ggc ccc cag tgc ctg gag    149
Gly Leu Ala Ala Asn Gln Thr Asn Gln Thr Gly Pro Gln Cys Leu Glu
 25              30                  35                  40

gtg tcc att ccc gac ggg ctc ttc ctc agc ctg ggg ctg gtg agc ctc    197
Val Ser Ile Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu
             45                  50                  55

gtg gag aac gtg ctg gtg gtg gcc gcc atc gcc aag aac cgc aac ctg    245
Val Glu Asn Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu
                 60                  65                  70

cac tcg ccc atg tac tac ttc gtc tgc tgc ctg gcc gtg tcg gac ctg    293
His Ser Pro Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu
             75                  80                  85

ctg gtg agc gtg agc aac atg ctg gag acg gcc gtg ctg ccg ctg ctg    341
Leu Val Ser Val Ser Asn Met Leu Glu Thr Ala Val Leu Pro Leu Leu
         90                  95                  100

gag gcg ggc gcc ctg gcc gcc cag gcc gcc gtg gtg cag cag ctg gac    389
Glu Ala Gly Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp
105                  110                 115                 120

aac gtc atg gac gtg ctc atc tgc ggc tcc atg gtg tcc agc ctc tgc    437
Asn Val Met Asp Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys
                 125                 130                 135

ttc ctg ggc gcc atc gcc gtg gac cgc tac gtg tcc atc ttc tac gcg    485
Phe Leu Gly Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala
             140                 145                 150

ctg cgc tac cac agc atc gtg acg ctg ccc cgc gcg ggg cgg gct atc    533
Leu Arg Tyr His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile
         155                 160                 165

gcg gcg atc tgg gcg ggc agc gtg ctc tcc agc acc ctc ttc atc gcc    581
Ala Ala Ile Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala
     170                 175                 180

tac tac cac cac acg gcc gtc ctg ctg ggc ctc gtc agc ttc ttc gtg    629
Tyr Tyr His His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val
185                 190                 195                 200

gcc atg ctg gcg ctc atg gcg gta ctg tac gtc cac atg ctg gcc cgg    677
Ala Met Leu Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg
             205                 210                 215

gcc tgc cag cac ggc cgg cac atc gcc cgg ctc cac aag acg cag cac    725
Ala Cys Gln His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His
         220                 225                 230
```

```
ccc acc cgc cag ggc tgc ggc ctc aag ggc gca gcc acc ctc acc atc    773
Pro Thr Arg Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile
        235             240             245

ctg ctg ggc gtc ttc ctc ctc tgc tgg gca ccc ttc ttc ctg cac ctc    821
Leu Leu Gly Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu
        250             255             260

tcc ctc gtc gtc ctc tgc ccc cag cac ccc acc tgc ggc tgc gtc ttc    869
Ser Leu Val Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe
265             270             275             280

aag aac gtc aac ctc ttt ctg gcc ctc gtc atc tgc aac tcc atc        914
Lys Asn Val Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
            285             290             295


<210> 39
<211> 916
<212> DNA
<213> Pig (Pietrain)

<220>
<221> CDS
<222> (30)...(916)
<223> Pietrain aMSH-R

<400> 39
ctccctgctc cctgctccct ggcgggacg atg cct gtg ctt ggc ccg gag agg    53
                                 Met Pro Val Leu Gly Pro Glu Arg
                                 1               5

agg ctg ctg gct tcc ctc agc tcc gcg ccc cca gcc gcc ccc ccc gcc    101
Arg Leu Leu Ala Ser Leu Ser Ser Ala Pro Pro Ala Ala Pro Pro Ala
        10              15              20

tcg ggc tgg ccg cca acc aga cca acc aga cgg gcc ccc agt gcc tgg    149
Ser Gly Trp Pro Pro Thr Arg Pro Thr Arg Arg Ala Pro Ser Ala Trp
25              30              35              40

agg tgt cca ttc ccg acg ggc tct tcc tca gcc tgg ggc tgg tga gcc    197
Arg Cys Pro Phe Pro Thr Gly Ser Ser Ser Ala Trp Gly Trp  *  Ala
            45              50                          55

tcg tgg aga acg tgc tgg tgg tgg ccg cca tcg cca aga acc gca acc    245
Ser Trp Arg Thr Cys Trp Trp Trp Pro Pro Ser Pro Arg Thr Ala Thr
            60              65              70

tgc act cgc cca tgt act act tcg tct gct gcc tgg ccg tgt cgg acc    293
Cys Thr Arg Pro Cys Thr Thr Ser Ser Ala Ala Trp Pro Cys Arg Thr
            75              80              85

tgc tgg tga gcg tga gca acg tgc tgg aga cgg ccg tgc tgc tgc tgc    341
Cys Trp  *  Ala  *  Ala Thr Cys Trp Arg Arg Pro Cys Cys Cys Cys
            90              95              100

tgg agg cgg gcg ccc tgg ccg ccc agg ccg ccg tgg tgc agc agc tgg    389
Trp Arg Arg Ala Pro Trp Pro Pro Arg Pro Pro Trp Cys Ser Ser Trp
        105             110             115
```

```
aca atg tca tga acg tgc tca tct gcg gct cca tgg tgt cca gcc tct    437
Thr Met Ser  *  Thr Cys Ser Ser Ala Ala Pro Trp Cys Pro Ala Ser
        120              125                  130

gct tcc tgg gcg cca tcg ccg tgg acc gct acg tgt cca tct tct acg    485
Ala Ser Trp Ala Pro Ser Pro Trp Thr Ala Thr Cys Pro Ser Ser Thr
        135              140                  145

cgc tgc gct acc aca gca tcg tga cgc tgc ccc gcg cgg ggc ggg cta    533
Arg Cys Ala Thr Thr Ala Ser  *  Arg Cys Pro Ala Arg Gly Gly Leu
        150              155                  160

tcg cgg cga tct ggg cgg gca gcg tgc tct cca gca ccc tct tca tcg    581
Ser Arg Arg Ser Gly Arg Ala Ala Cys Ser Pro Ala Pro Ser Ser Ser
        165              170                  175

cct act acc acc aca cgg ccg tcc tgc tgg gcc tcg tca gct tct tcg    629
Pro Thr Thr Thr Thr Arg Pro Ser Cys Trp Ala Ser Ser Ala Ser Ser
180              185                  190                  195

tgg cca tgc tgg cgc tca tgg cgg tac tgt acg tcc aca tgc tgg ccc    677
Trp Pro Cys Trp Arg Ser Trp Arg Tyr Cys Thr Ser Thr Cys Trp Pro
            200              205                  210

ggg cct gcc agc acg gcc ggc aca tcg ccc ggc tcc aca aga cgc agc    725
Gly Pro Ala Ser Thr Ala Gly Thr Ser Pro Gly Ser Thr Arg Arg Ser
            215              220                  225

acc cca ccc gcc agg gct gcg gcc tca agg gcg cgg cca ccc tca cca    773
Thr Pro Pro Ala Arg Ala Ala Ala Ser Arg Ala Arg Pro Pro Ser Pro
            230              235                  240

tcc tgc tgg gcg tct tcc tcc tct gct ggg cac cct tct tcc tgc acc    821
Ser Cys Trp Ala Ser Ser Ser Ser Ala Gly His Pro Ser Ser Cys Thr
        245              250                  255

tct ccc tcg tcg tcc tct gcc ccc agc acc cca cct gcg gct gcg tct    869
Ser Pro Ser Ser Ser Ser Ala Pro Ser Thr Pro Pro Ala Ala Ala Ser
260              265                  270                  275

tca aga acg tca acc tct ttc tgg ccc tcg tca tct gca act cca tc     916
Ser Arg Thr Ser Thr Ser Phe Trp Pro Ser Ser Ser Ala Thr Pro
            280              285                  290
```

<210> 40
<211> 756
<212> DNA
<213> Pig (Largewhite)

<220>
<221> CDS
<222> (1)...(756)
<223> Largewhite aMSH-R

<400> 40
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ccc gac ggg ctc ttc ctc agc ctg ggg ctg gtg agc ctc gtg gag aac    48
Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu Asn
```

```
     1                    5                         10                            15

gtg ctg gtg gtg gcc gcc atc gcc aag aac cgc aac ctg cac tcg ccc          96
Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser Pro
             20                      25                  30

atg tac tac ttc gtc tgc tgc ctg gcc gtg tcg gac ctg ctg gtg agc         144
Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val Ser
         35                      40                  45

gtg agc aac gtg ctg gag acg gcc gtg ctg ctg ctg ctg gag gcg ggc         192
Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu Glu Ala Gly
         50                      55                  60

gcc ctg gcc gcc cag gcc gcc gtg gtg cag cag ctg gac aat gtc atg         240
Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val Met
65                      70                  75                  80

aac gtg ctc atc tgc ggc tcc atg gtg tcc agc ctc tgc ttc ctg ggc         288
Asn Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu Gly
                 85                  90                  95

gcc atc gcc gtg gac cgc tac gtg tcc atc ttc tac gcg ctg cgc tac         336
Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg Tyr
             100                     105                 110

cac agc atc gtg acg ctg ccc cgc gcg ggg cgg gct atc gcg gcg atc         384
His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile Ala Ala Ile
         115                     120                 125

tgg gcg ggc agc gtg ctc tcc agc acc ctc ttc atc gcc tac tac cac         432
Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr His
    130                     135                 140

cac acg gcc gtc ctg ctg ggc ctc gtc agc ttc ttc gtg gcc atg ctg         480
His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met Leu
145                     150                 155                 160

gcg ctc atg gcg gta ctg tac gtc cac atg ctg gcc cgg gcc tgc cag         528
Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys Gln
                 165                 170                 175

cac ggc cgg cac atc gcc cgg ctc cac aag acg cag cac ccc acc cgc         576
His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr Arg
                 180                 185                 190

cag ggc tgc ggc ctc aag ggc gcg gcc acc ctc acc atc ctg ctg ggc         624
Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile Leu Leu Gly
         195                     200                 205

gtc ttc ctc ctc tgc tgg gca ccc ttc ttc ctg cac ctc tcc ctc gtc         672
Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu Val
         210                     215                 220

gtc ctc tgc ccc cag cac ccc acc tgc ggc tgc gtc ttc aag aac gtc         720
Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn Val
225                     230                 235                 240

aac ctc ttt ctg gcc ctc gtc atc tgc aac tcc atc                         756
Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
```

<210> 41
<211> 759
<212> DNA
<213> Pig (Hampshire)

<220>
<221> CDS
<222> (1)...(759)
<223> Hampshire aMSH-R

<400> 41

```
att ccc gac ggg ctc ttc ctc agc ctg ggg ctg gtg agc ctc gtg gag        48
Ile Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu
 1               5                  10                  15

aac gtg ctg gtg gtg gcc gcc atc gcc aag aac cgc aac ctg cac tcg        96
Asn Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser
                20                  25                  30

ccc atg tac tac ttc gtc tgc tgc ctg gcc gtg tcg gac ctg ctg gtg       144
Pro Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val
            35                  40                  45

agc gtg agc aac gtg ctg gag acg gcc gtg ctg ctg ctg ctg gag gcg       192
Ser Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu Glu Ala
        50                  55                  60

ggc gcc ctg gcc gcc cag gcc gcc gtg gtg cag cag ctg gac aat gtc       240
Gly Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val
65                  70                  75                  80

atg aac gtg ctc atc tgc ggc tcc atg gtg tcc agc ctc tgc ttc ctg       288
Met Asn Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu
                85                  90                  95

ggc gcc atc gcc gtg gac cgc tac gtg tcc atc ttc tac gcg ctg cgc       336
Gly Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg
            100                 105                 110

tac cac agc atc gtg acg ctg ccc cgc gcg ggg cgg gct atc gcg gcg       384
Tyr His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile Ala Ala
            115                 120                 125

atc tgg gcg ggc agc gtg ctc tcc agc acc ctc ttc atc gcc tac tac       432
Ile Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr
        130                 135                 140

cac cac acg gcc gtc ctg ctg ggc ctc gtc agc ttc ttc gtg gcc atg       480
His His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met
145                 150                 155                 160

ctg gcg ctc atg gcg gta ctg tac gtc cac atg ctg gcc cgg gcc tgc       528
Leu Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys
                165                 170                 175

cag cac ggc cgg cac atc gcc cgg ctc cac aag acg cag cac ccc acc       576
Gln His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr
```

```
                180                      185                      190
cgc cag ggc tgc ggc ctc aag ggc gcg gcc acc ctc acc atc ctg ctg    624
Arg Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile Leu Leu
        195                      200                      205

ggc gtc ttc ctc ctc tgc tgg gca ccc ttc ttc ctg cac ctc tcc ctc    672
Gly Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu
        210                      215                      220

gtc gtc ctc tgc ccc cag cac ccc acc tgc ggc tgc gtc ttc aag aac    720
Val Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn
225                      230                      235                240

gtc aac ctc ttt ctg gcc ctc gtc atc tgc aac tcc atc                759
Val Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                245                      250


<210> 42
<211> 759
<212> DNA
<213> Pig (Duroc)

<220>
<221> CDS
<222> (1)...(759)
<223> Duroc aMSH-R

<400> 42
att ccc gac ggg ctc ttc ctc agc ctg ggg ctg gtg agc ctc gtg gag     48
Ile Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu
1                   5                   10                  15

aac gtg ctg gtg gtg gcc gcc atc gcc aag aac cgc aac ctg cac tcg     96
Asn Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser
                20                  25                  30

ccc atg tac tac ttc gtc tgc tgc ctg gcc gtg tcg gac ctg ctg gtg    144
Pro Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val
        35                  40                  45

agc gtg agc aac gtg ctg gag acg gcc gtg ctg ctg ctg ctg gag gcg    192
Ser Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu Glu Ala
        50                  55                  60

ggc gcc ctg gcc gcc cag gcc gcc gtg gtg cag cag ctg gac aat gtc    240
Gly Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val
65                  70                  75                  80

atg gac gtg ctc atc tgc ggc tcc atg gtg tcc agc ctc tgc ttc ctg    288
Met Asp Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu
                85                  90                  95

ggc gcc atc gcc gtg gac cgc tac gtg tcc atc ttc tac gcg ctg cgc    336
Gly Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg
            100                 105                 110

tac cac agc atc gtg acg ctg ccc cgc gtg ggg cgg gct atc gcg gcg    384
Tyr His Ser Ile Val Thr Leu Pro Arg Val Gly Arg Ala Ile Ala Ala
```

```
atc tgg gcg ggc agc gtg ctc tcc agc acc ctc ttc atc gcc tac tac    432
Ile Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr
    130                 135                 140

cac cac acg gcc gtc ctg ctg ggc ctc gtc agc ttc ttc gtg gcc atg    480
His His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met
145                 150                 155                 160

ctg gcg ctc atg gcg gta ctg tac gtc cac atg ctg gcc cgg gcc tgc    528
Leu Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys
                165                 170                 175

cag cac ggc cgg cac atc gcc cgg ctc cac aag acg cag cac ccc acc    576
Gln His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr
                180                 185                 190

cgc cag ggc tgc ggc ctc aag ggc acg gcc acc ctc acc atc ctg ctg    624
Arg Gln Gly Cys Gly Leu Lys Gly Thr Ala Thr Leu Thr Ile Leu Leu
            195                 200                 205

ggc gtc ttc ctc ctc tgc tgg gca ccc ttc ttc ctg cac ctc tcc ctc    672
Gly Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu
    210                 215                 220

gtc gtc ctc tgc ccc cag cac ccc acc tgc ggc tgc gtc ttc aag aac    720
Val Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn
225                 230                 235                 240

gtc aac ctc ttt ctg gcc ctc gtc atc tgc aac tcc atc                759
Val Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                245                 250
```

<210> 43
<211> 252
<212> PRT
<213> Pig (Wild boar)

<400> 43
```
Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu Asn
1               5                   10                  15
Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser Pro
            20                  25                  30
Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val Ser
        35                  40                  45
Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Glu Ala Gly
        50                  55                  60
Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val Met
65                  70                  75                  80
Asp Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu Gly
                85                  90                  95
Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg Tyr
            100                 105                 110
His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile Ala Ala Ile
        115                 120                 125
Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr His
    130                 135                 140
His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met Leu
```

```
145                 150                 155                 160
Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys Gln
                165                 170                 175
His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr Arg
            180                 185                 190
Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile Leu Leu Gly
        195                 200                 205
Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu Val
    210                 215                 220
Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn Val
225                 230                 235                 240
Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                245                 250


<210> 44
<211> 252
<212> PRT
<213> Pig (Meishan)


<400> 44
Pro Asn Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu Asn
 1               5                   10                  15
Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser Pro
            20                  25                  30
Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val Ser
        35                  40                  45
Val Ser Asn Met Leu Glu Thr Ala Val Leu Pro Leu Leu Glu Ala Gly
    50                  55                  60
Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val Met
65                  70                  75                  80
Asp Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu Gly
                85                  90                  95
Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg Tyr
            100                 105                 110
His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile Ala Ala Ile
        115                 120                 125
Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr His
    130                 135                 140
His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met Leu
145                 150                 155                 160
Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys Gln
                165                 170                 175
His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr Arg
            180                 185                 190
Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile Leu Leu Gly
        195                 200                 205
Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu Val
    210                 215                 220
Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn Val
225                 230                 235                 240
Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                245                 250


<210> 45
<211> 252
<212> PRT
<213> Pig (Largewhite)
```

<400> 45

```
Pro Asn Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu Asn
1               5                   10                  15
Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser Pro
            20                  25                  30
Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val Ser
        35                  40                  45
Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu Glu Ala Gly
    50                  55                  60
Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val Met
65                  70                  75                  80
Asn Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu Gly
                85                  90                  95
Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg Tyr
            100                 105                 110
His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile Ala Ala Ile
    115                 120                 125
Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr His
    130                 135                 140
His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met Leu
145                 150                 155                 160
Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys Gln
            165                 170                 175
His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr Arg
            180                 185                 190
Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile Leu Leu Gly
            195                 200                 205
Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu Val
    210                 215                 220
Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn Val
225                 230                 235                 240
Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
            245                 250
```

<210> 46
<211> 253
<212> PRT
<213> Pig (Hampshire)

<400> 46

```
Ile Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu
1               5                   10                  15
Asn Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser
            20                  25                  30
Pro Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val
        35                  40                  45
Ser Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu Glu Ala
    50                  55                  60
Gly Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val
65                  70                  75                  80
Met Asn Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu
                85                  90                  95
Gly Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg
            100                 105                 110
Tyr His Ser Ile Val Thr Leu Pro Arg Ala Gly Arg Ala Ile Ala Ala
    115                 120                 125
Ile Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr
    130                 135                 140
His His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met
```

```
      145                     150                     155                     160
Leu Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys
                165                     170                     175
Gln His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr
                180                     185                     190
Arg Gln Gly Cys Gly Leu Lys Gly Ala Ala Thr Leu Thr Ile Leu Leu
                195                     200                     205
Gly Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu
        210                     215                     220
Val Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn
225                     230                     235                     240
Val Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                245                     250


<210> 47
<211> 253
<212> PRT
<213> Pig (Duroc)


<400> 47
Ile Pro Asp Gly Leu Phe Leu Ser Leu Gly Leu Val Ser Leu Val Glu
 1               5                       10                      15
Asn Val Leu Val Val Ala Ala Ile Ala Lys Asn Arg Asn Leu His Ser
                20                      25                      30
Pro Met Tyr Tyr Phe Val Cys Cys Leu Ala Val Ser Asp Leu Leu Val
        35                      40                      45
Ser Val Ser Asn Val Leu Glu Thr Ala Val Leu Leu Leu Leu Glu Ala
        50                      55                      60
Gly Ala Leu Ala Ala Gln Ala Ala Val Val Gln Gln Leu Asp Asn Val
65                      70                      75                      80
Met Asp Val Leu Ile Cys Gly Ser Met Val Ser Ser Leu Cys Phe Leu
                85                      90                      95
Gly Ala Ile Ala Val Asp Arg Tyr Val Ser Ile Phe Tyr Ala Leu Arg
                100                     105                     110
Tyr His Ser Ile Val Thr Leu Pro Arg Val Gly Arg Ala Ile Ala Ala
                115                     120                     125
Ile Trp Ala Gly Ser Val Leu Ser Ser Thr Leu Phe Ile Ala Tyr Tyr
        130                     135                     140
His His Thr Ala Val Leu Leu Gly Leu Val Ser Phe Phe Val Ala Met
145                     150                     155                     160
Leu Ala Leu Met Ala Val Leu Tyr Val His Met Leu Ala Arg Ala Cys
                165                     170                     175
Gln His Gly Arg His Ile Ala Arg Leu His Lys Thr Gln His Pro Thr
                180                     185                     190
Arg Gln Gly Cys Gly Leu Lys Gly Thr Ala Thr Leu Thr Ile Leu Leu
                195                     200                     205
Gly Val Phe Leu Leu Cys Trp Ala Pro Phe Phe Leu His Leu Ser Leu
        210                     215                     220
Val Val Leu Cys Pro Gln His Pro Thr Cys Gly Cys Val Phe Lys Asn
225                     230                     235                     240
Val Asn Leu Phe Leu Ala Leu Val Ile Cys Asn Ser Ile
                245                     250


<210> 48
<211> 2919
<212> DNA
<213> Pig
```

<400> 48

```
atgagaggcg ctcgccgcgc ctgggatttt ctcttcgtcc tgcagctctt gcttcgcgtc        60
cagacaggct cttctcagcc atctgtgagt ccagaggaac tgtctccacc atccatccat       120
ccagcaaaat cagagttaat cgtcagtgct ggcgatgaga ttaggctgtt ctgcaccgat       180
ccaggatctg tcaaatggac ttttgagacc ctgggtcagc tgagtgagaa tacacacgca       240
gagtggatcg tggagaaagc agaggccatg aatacaggca attatacatg caccaatgaa       300
ggcggtttaa gcagttccat ttatgtgttt gttagagatc ctgagaagct tttcctcgtc       360
gaccctccct tgtatgggaa ggaggacaat gacgcgctgg tccgatgtcc tctgacggac       420
ccagaggtga ccaattactc cctcacgggc tgcgaggga aaccccttcc caaggatttg       480
accttcgtcg cggacccaa ggccggcatc accatcagaa acgtgaagcg cgagtatcat       540
cggctctgtc tccactgctc cgccaaccag gggggcaagt ccgtgctgtc gaagaaattc       600
accctgaaag tgagggcagc catcagagct gtacctgttg tggctgtgtc caaagcaagc       660
taccttctca gggaagggga ggaatttgcc gtgatgtgct tgatcaaaga cgtgtctagt       720
tccgtggact ccatgtggat cagggagaac agccagacta aagcacaggt gaagaggaat       780
agctggcatc agggtgactt caattttctg cggcaggaaa ggctgacaat cagctcagca       840
agagttaatg attctggcgt gttcatgtgt tacgccaata atactttggg atctgcaaat       900
gtcacaacca ccttagaagt agtagataaa ggattcatta atatcttccc tatgatgaat       960
accactgtgt ttgtaaacga tggagaggat gtggatctaa ttgttgagta cgaggcgtac      1020
cccaaacctg aacaccgaca gtggatatat atgaaccgca ctgccactga taagtgggag      1080
gattatccca agtctgagaa tgaaagtaac atcagatatg taagtgaact tcacttgacc      1140
agattaaaag ggaccgaagg aggcacttac acatttctcg tgtccaatgc tgatgtcaat      1200
tcttctgtga catttaatgt ttacgtgaac acaaaaccag aaatcctgac tcatgacagg      1260
ctcatgaacg gcatgctcca gtgtgtggcg gcaggcttcc cagagcccac catcgattgg      1320
tatttctgtc caggcaccga gcagagatgt tccgttcccg ttgggccagt ggacgtgcag      1380
atccaaaact catctgtatc accgtttgga aaactagtga ttcacagctc cattgattac      1440
agtgcattca aacacaacgg cacggtggag tgcagggctt acaacgatgt gggcaagagt      1500
tctgcctttt ttaactttgc atttaaagaa caaatccatg cccacaccct cttcacgcct      1560
ttgctgattg gttttgtgat cgcagcgggt atgatgtgta tcatcgtgat gattctcacc      1620
tataaatatc tacagaagcc catgtatgaa gtacagtgga aggttgtcga ggagataaat      1680
ggaaacaatt atgtctacat agacccaacg caacttcctt atgatcacaa atgggaattt      1740
cccaggaaca ggctgagttt tggcaaaacc ttgggtgctg gcgccttcgg gaaagtcgtt      1800
gaggccactg catacggctt aattaagtca gatgcggcca tgaccgttgc cgtgaagatg      1860
ctcaaaccaa gtgcccattt aacggaacga gaagccctaa tgtctgaact caaagtctta      1920
agttacctcg gtaatcacat gaatattgtg aatcttctcg gcgcctgcac cattggaggg      1980
cccaccctgg tcattacaga atattgttgc tatggtgatc tcctgaattt tttgagacgg      2040
aaacgtgatt cgtttatttg ctcaaagcag gaagatcacg cagaagcggc gctttataag      2100
aaccttctgc attcaaagga gtcttcctgc agtgacagta ctaacgagta catggacatg      2160
aaacccggag tgtcttatgt ggtaccaacc aaggcagaca aaggagatc tgcgagaata      2220
ggctcataca tagaacgaga tgtgactcct gccatcatgg aagatgatga gttggcccta      2280
gacctggagg acttgctcag cttttcttac caagtggcaa agggcatggc cttcctcgcc      2340
tcgaagaatt gtattcacag agacttggcg gccagaaata tcctccttac tcatggtcga      2400
atcacaaaga tttgtgattt tggtctagcc agagacatca gaatgattc taattacgtg      2460
gtcaaaggaa acgctcggct acccgtgaag tggatggcac ctgagagcat tttcaactgt      2520
gtctacacat ttgaaagcga tgtctggtcc tatgggattt ttctgtggga gctcttctct      2580
ttagggagca gcccctaccc cggaatgcca gttgattcta aattctacaa gatgatcaag      2640
gagggtttcc gaatgctcag ccctgagcat gcacctgcgg aaatgtatga catcatgaag      2700
acttgctggg atgcggatcc cctcaaaaga ccaacgttta agcagatcgt gcagctgatt      2760
gagaagcaga tttcggagag caccaatcac atttattcca acttagcgaa ctgcagcccc      2820
caccgggaga accccgcggt ggatcattct gtgcggatca actccgtggg cagcagtgcc      2880
tcctccacgc agcctctgct tgtccacgaa gatgtctga                            2919
```

<210> 49
<211> 434
<212> DNA
<213> Pig (Wild Boar)

<400> 49

```
ctgcagtgct cctggtgagg ggggacgggc gctggagcca ggctgcgggg ctgagggcag 60
tggtgccgtc ctgcggcccg gttcctacgt ggctgggcag ccccttggca gagaggacgg 120
gccggacatc tctgaaggta tggacgctgg accctctggg gcccgacaga ggaagagcca 180
```

```
gcacttccag gaggcatggg gagtggggga ggctggagag acggcgggga gcgccacctc 240
catccagaga ccaccacgcc cgcctttggg gcgcgctctg gggactttgc cccccactgg 300
ggtgggacgt gtgcgggcag aagctgtccg ggtgttgctc actgcaggac ctcaggggaa 360
ggccttcgtg actgctagga agcaggcgca gcgccccggc ggagggcggg gcccctctct 420
tctacggctc agtg                                                    434
```

```
<210> 50
<211> 433
<212> DNA
<213> Pig (Meishan)
```

```
<400> 50
ctgcagtgct cctggtgagg ggggcgggcg ctggagccag gctgcggggc tgagggcagt    60
ggtgccgtcc tgcggcccgg ttcctacgtg gctgggcagc cccttggcag agaggacggg   120
ccggacatct ctgaaggtat ggacgctgga ccctctgggg cccgacagag gaagagccgg   180
cacttccagg aggcatgggg agtgggggag gctggagaga cggcggggag cgccacctcc   240
atccagagac caccacgccc gcctttgggg cgcgctctgg ggactttgcc ccccactggg   300
gtgggacgtg tgcgggcaga agctgtccgg gtgttgctca ctgcaggacc tcaggggaag   360
gccttcgtga ctgctaggaa gcaggcgcag cgccccggcg gagggcgggg cccctctctt   420
ctacggctca gtg                                                     433
```

```
<210> 51
<211> 434
<212> DNA
<213> Pig (Hampshire)
```

```
<400> 51
ctgcagtgct cctggtgagg ggggacgggc gctggagcca ggctgcgggg ctgagggcag    60
tggtgccgtc ctgcggcccg gttcctacgt ggctgggcag ccccttggca gagaggacgg   120
gccggacatc tctgaaggta tggacgctgg accctctggg gcccgacaga ggaagagccg   180
gcacttccag gaggcatggg gagtgggggа ggctggagag acggcgggga gcgccacctc   240
catccagaga ccaccacgcc cgcctttggg gcgcgctctg gggactttgc cccccactgg   300
ggtgggacgt gtgcgggcag aagctgtccg ggtgttgctc actgcaggac ctcaggggaa   360
ggccttcgtg actgctagga agcaggcgca gcgccccggc ggagggcggg gcccctctct   420
tctacggctc agtg                                                    434
```

```
<210> 52
<211> 23
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> E19PC oligonucleotide primer
```

```
<400> 52
catacatttc cgcaggtgca tgc                                           23
```

```
<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> E19PT oligonucleotide primer
```

```
<400> 53
tcatacattt ccacaggtgc atgc                                          24
```